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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,792	10/30/2000	David L. Smith	10005131-1	7073

7590 05/07/2004
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER
ABDULSELAM, ABBAS I

ART UNIT	PAPER NUMBER
2674	13

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,792

Applicant(s)

SMITH ET AL.

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 9-14, 16, 18-20 and 24-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-14, 16, 18-20 and 24-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see # 12, filed 02/13/04, with respect to the rejection(s) of claim(s) 1-4, 9-14, 16, 18-20, 24-37 under U.S.C. 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Thompson (USPN 6529620) and Webler et al. (USPN 6623433).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9-14, 16, 18-20, 24-25, 27-33 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabe et al. (USPN 6166722) in view of Yong (6088021) and Thompson (USPN 6529620).

Regarding claims 1, 24-25, 27, 33 and 36-37, Kawabe teaches a personal computer (10), a display (14) a pointing device (40) electrically connected to a cable (5), and a cable-winding device. See Fig 3, col. 6, lines 50-54 and Fig 8. However, Kawabe does not teach a mechanism of cable and cable receiver such that the pointing device produces various modes corresponding to various length of the cable. On the other hand, Yong teaches an input device (202) including a

reel assembly (214) which allows the cord (204) to be extended and retracted between fully extended lengths and fully retracted length. See col. 5, lines 17-21 and Fig 2.

It would have been obvious to one skilled in the art at the time the invention was made to modify kawabe's pointing device to include Yong's reel assembly and cord. One would have been motivated in view of the suggestion in Yong that the reel assembly and the cord can be used for the desired functions of changing the length of the cord and producing different modes. The use of reel assembly and cord helps an input device produce retractable cable as taught by Yong.

In addition, Yong teaches that a body (300) may include a reel assembly (314), which comprises a frame or housing (318) disposed within housing (302) of the body (300). See col. 6, lines 56-60 and Fig. 3 (A-B). Yong teaches in reference to Fig 3(A-B), electronic encoders sensing the rotation of the ball (310) and generating a signal indicative of the computer's display. Col. 5, lines 47-50. Further referring to Fig. 3(A-B), Yong teaches depressible keys (308), and opening (320) coincident with an opening in the front of the housing (302) through which the chord (316) may extend. Yong teaches as shown on Fig. 1A that the display (104) is part of a computer system (100) in which a central processing system (122) is an integral part (Fig 1B). Referring Fig 5, Yong further discloses the use of a shaft (518) coupled with sensors, which generate a signal causing a cursor displayed on the display. See col. 7, 52-65. Yong teaches that the mechanism in which spool (322) and the disk (350) are rotated against the force of the spring (342) and shows the movement of the tip of the flexible pawl (354) out of notch in the disk (350). See col. 7, lines 6-22. Yong teaches a connector (206) for coupling the body (208) of the input device (202) to the computer system (Fig, 1A). Furthermore, Yong mentions the use of the

computer system (100) in terms of input/output system (136) that can include infrared and electroacoustic transducers. (Col. 4, lines 25-40).

Kawabe in view of Young has been discussed. However, Kawabe does not teach an optical tracking device disposed on or within the cable receiver, the device including a lens, a sensor and a light source such that device generates signals based on movement of the pointing device. Thompson on the other hand teaches an image sensor (156) comprising a bundle of fiber optic cables, which optically transmit an image from lens (200) to a viewing device for a display. See col. 14, lines 16-21 and see Fig. 14.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawabe's input system to incorporate Thompsons's image sensor (156). One would have been motivated in view of the suggestion in Thompson that the image sensor (156) provides the desired optical tracking device. The use of image sensor facilitates images to be displayed on the monitor (460) as taught by Thompson.

Regarding claim 2, Young teaches a cord (204). See Fig. 3. It would have been obvious to set the size of the cord in a desired size.

Regarding claims 3-4, Yong teaches a keyboard (412) and mouse and (414) for entering information and commands into the computer (41). See Fig 4.

Regarding claims 10, 16 and 28, Yong teaches electric encoders sensing the rotation of the ball and generating a signal indicative of the ball's rotation to control movement of the cursor displayed on the display. See col. 1, lines 28-31.

Regarding claims 12, and 19, Yong teaches a cord (204) with fully extended length shown as phantom lines and fully retracted length shown as solid lines. See col. 5, lines 17-21 and Fig 2.

Regarding claims 9, 13 and 18, Yong teaches an auxiliary memory (126), which includes optical device and different types of disks in conjunction with input/output system (136). See Fig 1B and col. 3. Lines 46-51.

Regarding claims 11 and 14, kawabe teaches the use of cable means for a pointing device. See col. 1, lines 13-25.

Regarding claims 20 and 35, see Yong's Fig 3A, Fig. 3B (316), (350).

Regarding claims 29-30, Kawabe teaches a pointing device (40) whose upper surface is provided with a sensor pad (40a). See Fig 8.

Regarding claims 31-32, Yong teaches an input device including a wheel assembly (212).

Claims 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabe et al. (USPN 6166722) in view of Yong (6088021) and Webler et al. (USPN 6623433).

Regarding claims 26 and 34 Kawabe in view of Young has been discussed. Kawabe does not teach an opto-mecahnical tracking device including a mechanical motion transfer mechanism and relatable control circuit having at lease one transducer disposed on the cable receiver converting movement of the mechanical motion transfer into apposition signal". Webler on the other hand teaches a probe drive model (20), which is mechanically and electrically connected ultrasound imaging probe (16) such that image are displayed in a proper format (44) on the

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display device (42). See col. 5, lines 55-67 and col. 6, lines 39-50. Webler teaches that probe drive model includes a torque cable transferring the rotational motion via motor to shaft extension (75) of the probe element (16) causing the transducer to rotate guide sheath (14). See col. 8, lines 39-44 and Fig. 2.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawabe's input system to adapt Webler's probe drive model (20). One would have been motivated in view of the suggestion in Webler that the drive model (20) as configured on Fig. 1 equivalently provides the desired opto-mecahnical tracking device. The use of drive model (20) helps generate image on display device (42) as taught by Webler.

Conclusion

3. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat No. 5,980,450 to Thompson

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abduselam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

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Any response to this action should be mailed to:

Commissioner of patents and Trademarks

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or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

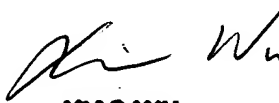
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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May 1, 2004


XIAO WU
PRIMARY EXAMINER